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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/651,594

08/29/2003

Tim Murphy

501039.03

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7590

06/18/2004

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EXAMINER

BEREZNY, NEMA O

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/651,594

Applicant(s)

MURPHY ET AL.

Examiner

Nema O Berezny

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 19-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/03, 2/04, 3/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 19-23, 25, 28-32, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Sudo (5,198,684). Sudo discloses a method of transferring data between a chip and a chip package, the chip including memory circuitry having control, address, and data signals, the chip further having bond pads coupled to the memory circuitry to transfer control, address, and data signals to and from the circuitry, the chip package including a plurality of conductive components, the method comprising: receiving an electronic signal from a bonding pad; converting the electronic signal to an electromagnetic signal; transmitting the electromagnetic signal; receiving the electromagnetic signal; converting the received electromagnetic signal to an electronic signal; and applying the electronic signal to a conductive component of the chip package (col.6 lines 33-61) [**claim 19**]. Sudo also discloses receiving an electronic signal from a conductive component, and applying the electronic signal to a bonding pad of the chip (col.6 lines 33-61) [**claim 28**]. Sudo also discloses wherein the operation of transmitting the electromagnetic signal comprises transmitting the electromagnetic signal through an intermediate layer away from chip without the

transmission propagating first through the chip (Fig.4; col.5 lines 51-56; col.6 lines 19-23, 6-8) [**claims 20, 29**]; wherein the operation of transmitting the electromagnetic signal through an intermediate layer comprises transmitting the electromagnetic signal through an adhesive layer (Fig.4 el.80) having an index of refraction allowing the electromagnetic signal to pass therethrough (col.6 lines 1-12) [**claims 21, 30**]; wherein the operation of transmitting an electromagnetic signal comprises emitting a laser signal (el.40B) [**claims 22, 31**]; wherein the operation of transmitting an electromagnetic signal comprises emitting an optical signal (el.40A) [**claims 23, 32**]; and wherein the operation of transmitting the electromagnetic signal comprises transmitting the electromagnetic signal through the chip itself (col.6 lines 33-61) [**claims 25, 34**].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24, 26-27, 33, and 35-36 rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo as applied to claims 19-20, 25, 28-29, and 34 above, and further in view of Austin et al. (5,200,631). Sudo discloses coupling the silicon chip (el.75) to the chip package, but Sudo does not disclose encapsulating the chip and chip package, or transmitting an infrared signal. However, Sudo would look to one such as Austin for package protection and to enable emission of wavelengths outside the visible

wavelength range because Austin discloses encapsulating the first surface of the chip package, the entire chip, and the intermediate layer with an encapsulating layer (Fig.1 el.26) [**claims 24, 27, 33, 36**]. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the encapsulation of Austin with the method of Sudo in order to protect the package from moisture, and chemical and mechanical stress.

Sudo would also look to one such as Austin for wavelength emission outside the visible wavelength range because Austin discloses wherein the operation of transmitting an electromagnetic signal comprises emitting an infrared signal (col.4 line 57 – col.5 line 22) [**claims 26, 35**]. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the infrared signal of Austin with the method of Sudo in order to emit wavelengths outside of the visible wavelength range (col.4 line 65 – col.5 line 1).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nema O Berezny whose telephone number is (571) 272-1686. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NB


Chandra Chaudhari
Primary Examiner